Abstract 22

Development of a Patient Selection Protocol Prior to Robotic Radical Prostatectomy (RRP) in the Preoperative Assessment Unit (PAU)

James Dyer, MD
University of Oklahoma Health Sciences Center, Oklahoma City, OK

Background: The first clinical cases of extraperitoneal laparoscopic radical prostatectomy using the da Vinci robotic system were reported by Gettman et al in 2003.[1] Our institution began performing this procedure in 2008. In the largest published review to date (1,500 cases), Danic et al opine: "…any patient who is a suitable candidate for conventional retropubic (open) radical prostatectomy is a candidate for RRP."[2] However, their experience (mean operative time of 177 minutes, mean blood loss of 109 mL, mean BMI of 27 kg/m^2) is likely very different from that of other centers in the United States that have recently started performing the technique. Given the clinical consequences and known potential complications of the steep Trendelenburg position and pneumoperitoneum during prolonged surgery, we sought a more selective approach.

Purpose: To develop a RRP patient selection protocol to be used in the PAU by physician assistants and resident anesthesiologists. To our knowledge, none is previously reported in the literature.

Description: Development of the patient selection protocol was based on local expert opinion derived from personal experience with RRP surgery, experience with other surgeries in which pneumoperitoneum and steep Trendelenburg positioning were used, personal communications with experts at national meetings, and literature review.[3–5]

Results: Exclusion criteria for RRP, based on our protocol, include the following neurologic, musculoskeletal, or cardiopulmonary conditions: severe glaucoma, increased intracranial pressure, history of cerebral aneurysm, hip disease that precludes lithotomy positioning, class II–IV angina, class II–IV congestive heart failure, left ventricular ejection fraction less than 40%, CHF or COPD exacerbation in the past 3 months, severe asthma or COPD, severe restrictive lung disease, any condition requiring supplemental oxygen, blebs on chest radiography, obesity with BMI greater than 40 kg/m^2, pulmonary hypertension with RVSP greater than 40 mm Hg, and moderate or severe stenotic valvular heart disease or severe regurgitant valvular heart disease.

Conclusions: Patient selection for RRP can be protocol-based in order to facilitate consistent decision making that reflects institution-specific risk. As surgeons gain experience with the technique and operative times decrease, patient selection protocols should be reassessed. Although our current protocol is based on local expert opinion, a more evidence-based approach is anticipated as we collect and analyze data from continued experience.

1. Gettman MT, Hoznek A, Salomon L, et al. Laparoscopic radical prostatectomy: description

of the extraperitoneal approach using the da Vinci robotic system. J Urol 2003; 170:416–419.

2. *Danic MJ, Chow M, Alexander G, et al. Anesthesia considerations for robotic-assisted laparoscopic prostatectomy: a review of 1,500 cases. J Robotic Surg 2007; 1:119–123.*
3. *Phong SV, Koh LK. Anaesthesia for robotic-assisted radical prostatectomy: considerations for laparoscopy in the Trendelenburg position. Anaesth Intensive Care 2007; 35:281–285.*
4. *Falabella A, Moore-Jeffries E, Sullivan MJ, et al. Cardiac function during steep Trendelenburg position and CO2 pneumoperitoneum for robotic-assisted prostatectomy: a transoesophageal Doppler probe study. Int J Med Robot 2007; 3:312–315.*
5. *Awad H, Santilli S, Ohr M, et al. The effects of steep Trendelenburg positioning on intraocular pressure during robotic radical prostatectomy. Anesth Analg 2009; 109:473–478.*